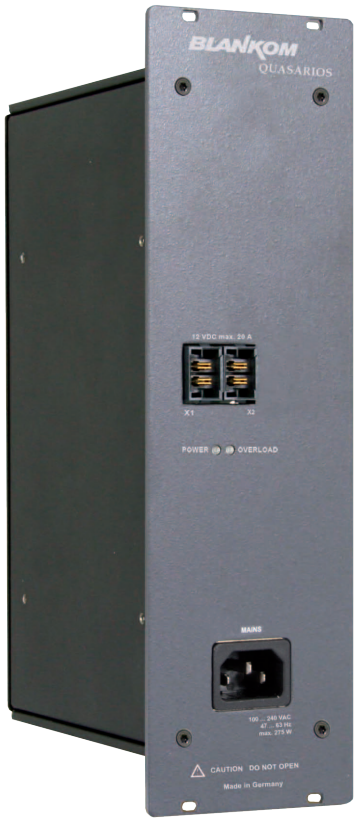
BLANKOM®

Professional Headend Solutions

Operating instructions



Power supply module (12 V/ 20 A)

QUASARIOS
Part N°: 5151.01

...Setting Signals

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1. Safety and operating instructions

When assembling, starting-up and adjusting the modules, it is necessary to consider the system specific references in the manual instruction.

The modules may only be installed and started up by authorized technical personnel.

When assembling the modules into the receiving points, the adherence of the EMC regulations is to be secured.

The assembly and wiring have to be done without voltage.

All active modules may only be operated with the power supply HELIOS, HELIOS-P1 or QUASARIOS.

The main voltage and the operating voltage of the modules working by DC have to be in complience to the operating parameters described in the technical data.

With all work the defaults of the DIN EN 50083 have to be considered. Especially the safety relevant execution of the DIN EN 60728-11[1] is necessary.

The QUASARIOS module comes under protection classification I. It is absolutely necessary, therefore, to insert the mains plug into a fused socket.

The ventilation slots of the modules are to be kept absolutely free.

When rail mounting the DIN rail clip is mounted with the supplied countersunk screws M4 enclosed in the accessory tray. The enclosed support foot is mounted to the corresponding mark on the rear panel (see 4.2).

At the rear there is a connection option for equipotential. For installation of the protective conductor lens M4, serrated lock washer and lock washer, enclosed in the accessory tray, should be used.

WEEE-Reg.-Nr. DE 50389067

2. Device variants

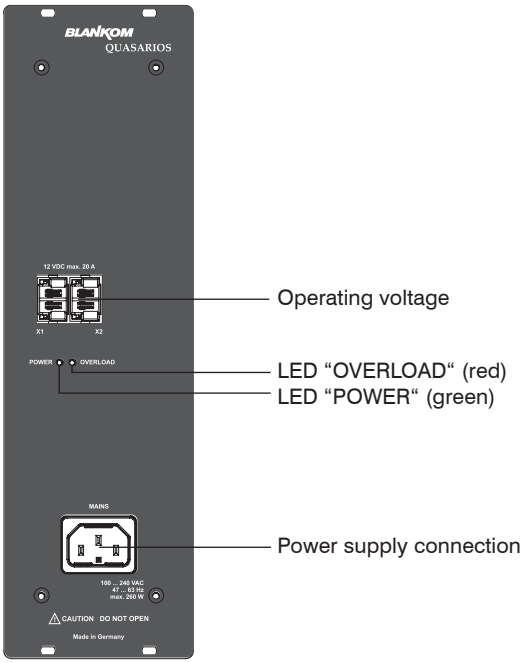
QUASARIOS	5151.01	Power supply (12 V/ 20 A, 100 ... 240 V~ input)

3. General

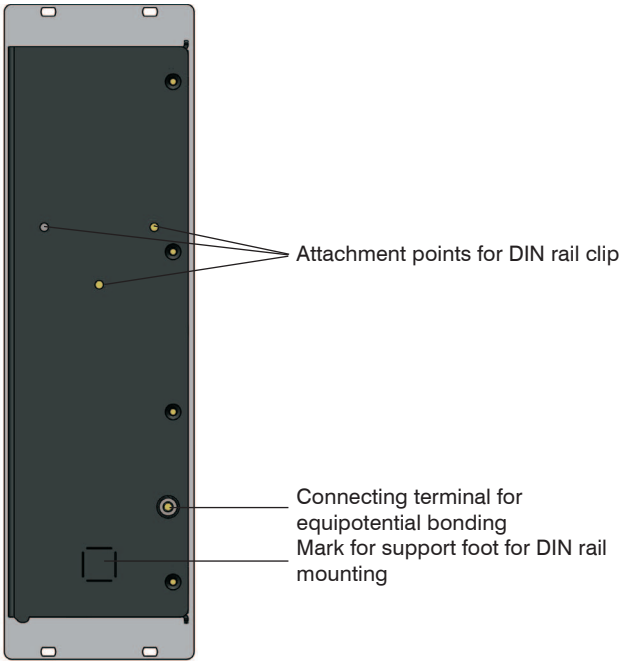
The Smart Business Line (SBL) is a modern head end system, that is distinguished by its modular and compact design. A user-friendly operating concept facilitates setup, configuration and maintenance of the system.
The QUASARIOS is a power supply (20 amps) of the SBL. The status of the module will be displayed by LED‘s.

4. Device view

4.1 Front view



4.2 Rear view


Attachment points for DIN rail clip
Connecting terminal for equipotential bonding
Mark for support foot for DIN rail mounting

5. Functional description

The QUASARIOS module is designed specifically for SBL and serves as a power supply for the processing units. The arrangement of the power supply must be carried out in such a way that shortest possible cable lengths to the modules and so only small voltage drops results. This is best achieved by an arrangement of the power supply in the middle of the processing units, so that a distribution of the current on the two output connectors takes place.
The total current consumption of the connected modules do not exceed the maximum current supply of the QUASARIOS. The unit has also a small current reserve, which ensures even under adverse conditions (e.g. at elevated ambient temperature) the safe operation.
The technical planning has to ensure that the QUASARIOS is carrying on only in the nominal range. There the current requirement of LNB‘s, pre-amplifier or similar, which are possibly connected to the processing units, is also to be considered. The module has an active startup current limitation, which is effective in hot and cold start and power failures and limits the input current pulse to values below 50 A.
An active PFC (power factor correction) ensures that an essentially sinusoidal current is drawn the mains, and thus only little noise can be generated. The optimized internal design with modern components also ensures for a very high efficiency and low temperature rise. The QUASARIOS is insensitive to output side transients (glitches), they are limited by a suppressor diode.
The module has an overvoltage shutdown. If the output voltage rises to unacceptable values (> 14 V) by a malfunction of the power supply (e.g. disruption of the control system) or external influence, an independent second monitoring circuit is activated, which switches off the power supply. A deletion of this condition can only be done by separating the power supply from the mains. After a waiting period of about 1 ... 2 minutes, the monitoring circuit is reset in response to the pre-existing supply voltage and the power supply can be re-connected to the mains. If the malfunction is not resolved, then the described process is repeated again.

6. Meaning of status LED‘s

Designation	Colour	Status	Meaning of display
POWER	green	permanently on	Unit is ready.
		flashing	rhythmic flashing of **both** LEDs indicates the idle ot the module
		off	Unit is off, operating voltage not applied
OVERLOAD	red	permanently on	Overload on the output (for example to many consumers)
		flashing	rhythmic flashing of **both** LEDs indicates the idle of the module
		off	Load is within limits

If both LEDs are off, first the power supply must be checked. Otherwise, the safety circuit can be triggered, which requires a power interruption of 2 minutes.

7. Technical data

Electrical characteristics

Main voltage	100 ... 240 V, (+10%/ - 5%)
Mains frequency	47 … 63 Hz
Mains connector	built in connector according DIN EN 60320-1 (IEC 60320 C14) [3]
Power consumption	max. 260 W
Power factor	0.98
Nominal output voltage	12 V-
Ripple noise ratio	66 dB
Current drain	0.4 ... 20 A
Current limit	yes (22 A typical)
Short circuit protection	yes
Overvoltage protection	yes (≤ 14.5 V, reset requires 2 minutes mains separation)
Internal fuse	G5 x 20, T4A (IEC 127-2/ V)
Protection class	I according DIN EN 61140 (VDE 0140-1) [4]
Protection standard	IP 20
Radio noise suppression	according DIN VDE 0871 (curve B) [5], EN 50083-2 [2]

Environmental conditions

Temperature range	-10 … +55 °C
Relative humidity	≤ 80 % (not condensing)
Mounting method	vertical
Mounting location	splash-proof and drip-proof

Miscellaneous

Dimensions (l x w x h)	76 x 262 x 167 mm
Weight	ca. 1,550 g

Delivery contents

1x power cord
1x DIN rail clip
1x mounting accessories
2x dummy connector
1x ground-mount kit

8. Bibliography

[1] EN 60728-11: Cable networks for television signals, sound signals and interactive services Part 11: Safety (IEC 60728-11:2005); German version EN 60728-11:2005

[2] EN 50083-2 : Cabled distribution systems for television and sound signals. Electromagnetic compatibility for equipment; EN 50083-2:2001

[3] EN 60320-1: Appliance couplers for household and similar general purposes Part 1: General requirements (IEC 60320-1:2001 + A1:2007); German version EN 60320-1:2001 + A1:2007, Corrigendum to DIN EN 60320-1 (VDE 0625-1):2008-05

[4] DIN EN 61140; VDE 0140-1: Protection against electric shock - Common aspects for installation and equipment (IEC 61140:2001 + A1:2004, modified); German version EN 61140:2002 + A1:2006

[5] DIN VDE 0871: Radio noise suppression of high frequency units, Determination of limits for industrial, scientific and medical equipment, identical with CISPR 23 :1987

9. Document history

Version	Date	Modification	Author
1.00	29.08.2012	basic document	Häußer

Options available upon request! Subjects to changes due to technical progress.

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CE Declaration of Conformity

The Manufacturer

BLANKOM Antennentechnik GmbH · Hermann-Petersilge-Str. 1 · 07422 Bad Blankenburg · Germany

herewith declares the conformity of the product

Product name:	Power supply module (12 V/ 20 A)
Type:	QUASARIOS
Product number:	5151.01

according to the following regulations

EN 50083-2 [2]
EN 60728-11 [1] (as far as relevant)

and additional device-specific regulations, enclosed above, which this product is subjected to.

Date: 29.08.2012

Signature:

Dr. Piero Kirchner
(Managing Director)